

Virtual Marketplace for Urban Air Mobility, Phase I

Completed Technology Project (2018 - 2019)



Project Introduction

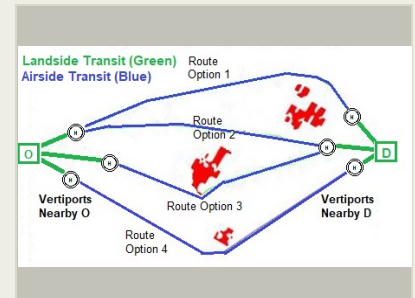
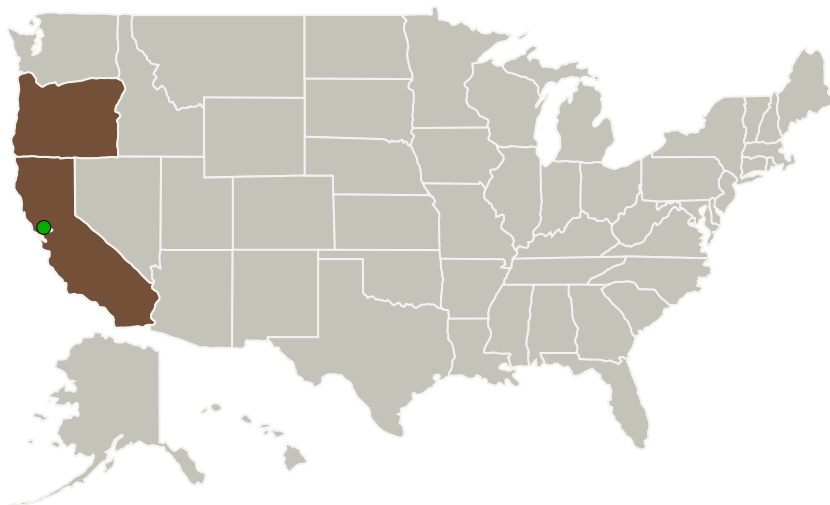
We build a software system that executes a virtual marketplace for urban air mobility (UAM). The virtual marketplace will serve the traveling public with an on-demand system that connects multi-modal modes of transportation in a competitive marketplace environment utilizing forward auctions and reverse auctions to provide cost effective transportation of people and goods. The virtual marketplace will shape the UAM demand datasets (location of all takeoff points in the urban environment), and in the long term, will force competitive market forces to make UAM a viable cost competitive system of transportation.

Anticipated Benefits

The research software and algorithms produced in this effort can be applied to cost benefits studies to show the viability of the UAM concept of operations. The software can be adapted by NASA to investigate UAM at different urban environments for different cities in the United States. The software can also be used in Human in the Loop (HITL) experiments at NASA.

Uber Elevate, Google, and other corporations interested at setting up Vertical Take Off and Landing (VTOL) vehicles that fly UAM missions in urban environments will potentially use our software to assist in the management of those VTOL flights. These companies will first be interested in our software tied to simulations to determine cost effective strategies for UAM.

Primary U.S. Work Locations and Key Partners



Virtual Marketplace for Urban Air Mobility, Phase I

Table of Contents

Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Images	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destination	3

Virtual Marketplace for Urban Air Mobility, Phase I

Completed Technology Project (2018 - 2019)



Organizations Performing Work	Role	Type	Location
The Innovation Laboratory, Inc.	Lead Organization	Industry Women-Owned Small Business (WOSB)	Portland, Oregon
● Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

The Innovation Laboratory, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Jimmy Krozel

Primary U.S. Work Locations

California	Oregon
------------	--------

Project Transitions

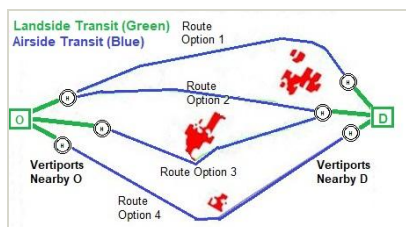
▶ **July 2018:** Project Start

✓ **February 2019:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/140144>)

Images

**Briefing Chart Image**

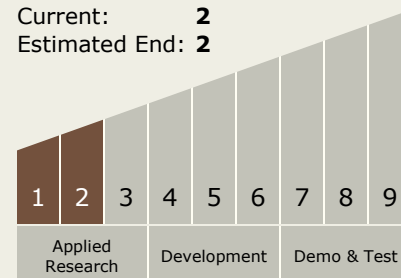
Virtual Marketplace for Urban Air Mobility, Phase I
(<https://techport.nasa.gov/image/131988>)

**Final Summary Chart Image**

Virtual Marketplace for Urban Air Mobility, Phase I
(<https://techport.nasa.gov/image/132998>)

Technology Maturity (TRL)

Start: **1**
Current: **2**
Estimated End: **2**



Virtual Marketplace for Urban Air Mobility, Phase I

Completed Technology Project (2018 - 2019)



Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.4 Aeroacoustics

Target Destination

Earth